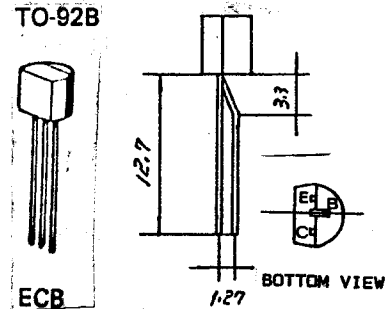




BC184 BC184L BC214 BC214L

COMPLEMENTARY SILICON AF SMALL SIGNAL AMPLIFIERS & DRIVERS

The BC184, BC184L (NPN) and BC214, BC214L (PNP) are complementary silicon planar epitaxial transistors for use in AF small signal amplifiers and drivers, as well as for low noise pre-amplifiers applications. Both types feature good linearity of DC current gain.

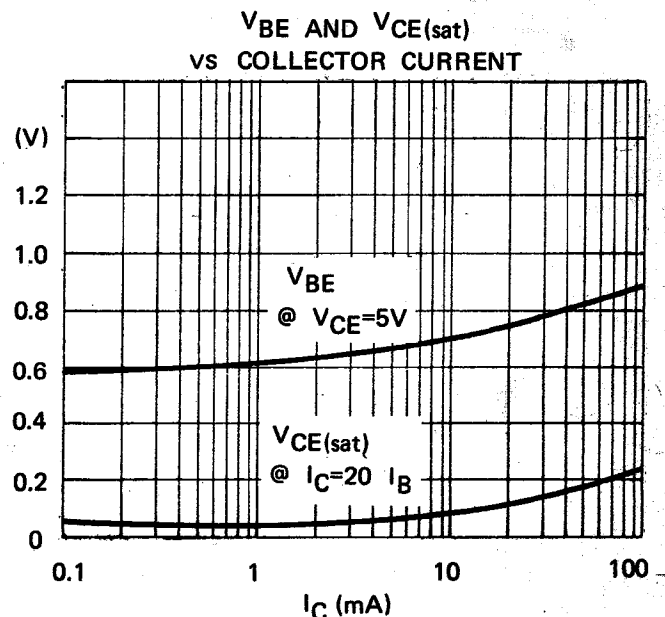
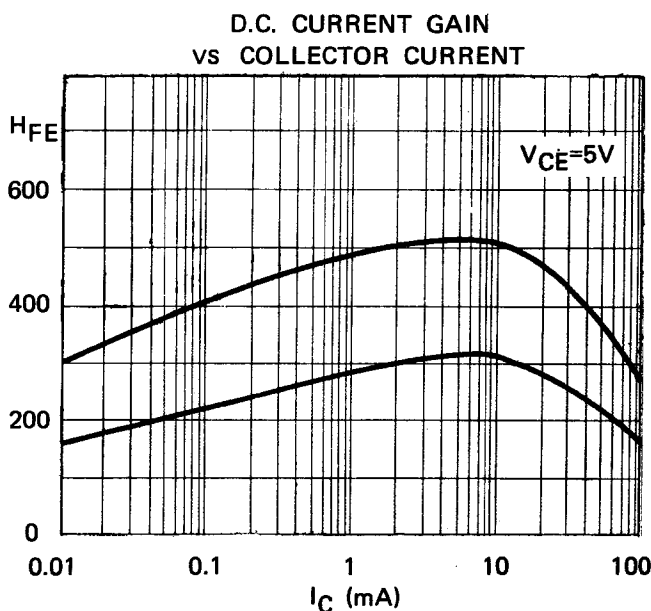


BC184L BC184
BC214L BC214

ABSOLUTE MAXIMUM RATINGS

		BC184,L	BC214,L
Collector-Base Voltage	V_{CBO}	45V	45V
Collector-Emitter Voltage	V_{CE0}	30V	30V
Emitter-Base Voltage	V_{EBO}	6V	5V
Collector Current	I_C		200mA
Total Power Dissipation @ $T_A=25^\circ C$ Derate above $25^\circ C$	P_{tot}		300mW 2.4mW/ $^\circ C$
Operating Junction and Storage Temperature	T_j, T_{stg}		-55 to $+150^\circ C$

TYPICAL CHARACTERISTICS ($T_A=25^\circ C$ unless otherwise specified)



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ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	BV_{CEO}	30			V	$I_C=2\text{mA}$ $I_B=0$
Collector-Base Breakdown Voltage	BV_{CBO}	45			V	$I_C=10\mu\text{A}$ $I_E=0$
Emitter-Base Breakdown Voltage	BV_{EBO}	6 5			V	$I_E=10\mu\text{A}$ $I_C=0$
Collector Cutoff Current	I_{CBO}			15	nA	$V_{CB}=30\text{V}$ $I_E=0$
Emitter Cutoff Current	I_{EBO}			15	nA	$V_{EB}=4\text{V}$ $I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.07	0.25 0.6	V	$I_C=10\text{mA}$ $I_B=0.5\text{mA}$ $I_C=100\text{mA}$ $I_B=5\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.2 1.1	V	$I_C=100\text{mA}$ $I_B=5\text{mA}^*$
Base-Emitter Voltage	V_{BE}	0.55 0.6		0.7 0.72	V	$V_{CE}=5\text{V}$ $I_C=2\text{mA}$
D.C. Current Gain	H_{FE}	100 <u>220</u> 140 130				$V_{CE}=5\text{V}$ $I_C=10\mu\text{A}$ $V_{CE}=5\text{V}$ $I_C=2\text{mA}$ $V_{CE}=5\text{V}$ $I_C=100\text{mA}^*$
Small Signal Current Gain ($f=1\text{KHz}$)	h_{fe}	240 140		900		$V_{CE}=5\text{V}$ $I_C=2\text{mA}$
	Group B Group C	240 450		500 900		
Output Capacitance	C_{ob}		3 5	5	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$
Input Capacitance	C_{ib}		9.5		pF	$V_{EB}=0.5\text{V}$ $I_E=0$ $f=1\text{MHz}$
Current Gain-Bandwidth Product	f_T		280 350		MHz	$I_C=10\text{mA}$ $V_{CE}=5\text{V}$ $f=100\text{MHz}$
Noise Figure	NF			4 2	dB	$I_C=200\mu\text{A}$ $V_{CE}=5\text{V}$ $R_G=2\text{K}\Omega$ $NB=15.7\text{KHz}$ $f_1=10\text{Hz}$ $f_2=10\text{MHz}$

* Pulse Test : Pulse Width = $300\mu\text{S}$, Duty Cycle $\leq 2\%$.